

### **REMARKS**

Claims 1-20 are currently pending. By this Amendment, claims 1 and 11 have been amended for clarification of the claimed invention, without acquiescence in cited basis for rejection or prejudice to pursue in a related application. No new matter has been added.

#### **Claim Objections**

Claims 1, 6, 9, 11, 16 and 19 are objected to for alleged informalities. Applicant respectfully disagrees. It is clear and proper to have the limitation of “circuit element” in the independent claims and “flip-flop” in the dependent claims because “flip-flop” further limits the term “circuit element”. Thus, this rejection is improper.

Applicant would like to thank the Examiner for indicating that claims 7, 10, 17 and 20 include allowable subject matter.

#### **Claim Rejections Under 35 U.S.C. §112**

Claims 1-20 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully disagrees. The claims have been amended to clarify the invention. Thus, this rejection is now moot.

For at least the foregoing reasons, Applicant respectfully requests that the § 112, second paragraph, rejections for claims 1 and 11, and their respective dependent claims, be withdrawn.

#### **Claim Rejections Under 35 U.S.C. §103**

Claims 1-9 and 11-19 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Masatake (JP 2003-202362) in view of Jaramillo et al. (10 Tips for Successful Scan Design: Part two, February 17, 2000, ednmag.com, pp. 77-90). Applicant respectfully traverses.

Independent claim 1 recites the following feature: “wherein a design rule for the act of associating the lockup register with the first or second scan chains associated with the lockup register are based at least in part upon a clock waveform and a triggering edge of the beginning or ending circuit element.”

Applicant respectfully submits that Masatake does not disclose or suggest at least the feature of “wherein a design rule for the act of associating the lockup register with the first or second scan chains associated with the lockup register are based at least in part upon a clock waveform and a triggering edge of the beginning or ending circuit element” (emphasis added). Specifically, Masatake disclose only a selector 3 associated with the beginning of a scan chain 12. As can be seen by Drawing 1 of Masatake, the selector 3 associated with scan chain 11 merely selects either a positive clock or a negative clock. Masatake does not disclose or suggest a design rule for associating as claimed. The claimed invention explicitly recites a design rule for the act of associating based at least in part upon a clock waveform and a triggering edge of the beginning or ending circuit element. A selector for selecting a positive or negative clock is not the same as a design rule for associating based at least in part upon a clock waveform and a triggering edge because selecting the clock merely is a function of the selector and does not disclose or suggest any rules on how to associate any lockup registers. Masatake does not disclose or suggest any designing decisions by determining how and what components to associate. Specifically, selector of Masatake functions with respect to clock but is not associated to the circuit design based on any kinds of clock waveforms and triggering edges. Therefore, Masatake does not disclose or suggest at least “associating a lockup register with a beginning or ending circuit element of the first or second scan chains, wherein a design rule for the act of associated the lockup register with the first or second scan chains associated with the lockup register are based at least in part upon a clock waveform and a triggering edge of the beginning or ending circuit element.”

Applicant respectfully submits that Jaramillo does not disclose or suggest at least the feature of “wherein a design rule for the act of associating the lockup register with the first or second scan chains associated with the lockup register are based at least in part upon a clock waveform and a triggering edge of the beginning or ending circuit element” (emphasis added). Jaramillo discloses a scan chain with mixing flip-flops (Fig. 3). Fig. 3 of Jaramillo also discloses a lockup latch. Specifically, Jaramillo discloses on page 83 first paragraph of the second column: “Whenever a falling-edge-triggered flip-flop follows a rising-edge-triggered flip-flop in a scan chain, you must insert a lockup latch between them.” Therefore, Jaramillo teaches a design strategy of when one must insert the lockup latch between falling-edge-triggered flip-flop and the rising-edge-triggered flip-flop in a scan chain. Jaramillo inserts a lockup latch to prevent data from shifting through both

flip-flops in one clock cycle and places falling-edge-triggered flip-flops at the beginning of the scan chain for each block. Jaramillo does not teach or suggest the design rules for associating based at least in part upon clock waveform and a triggering edge of the beginning or ending circuit element. Inserting a lockup latch between two kinds of flip-flops of Jaramillo is not the same as a design rule for associating based at least in part upon a clock waveform and a triggering edge of the beginning or ending circuit element because Jaramillo is associated based on flip flops and not the type of clock waveforms. Therefore, Jaramillo also does not disclose or suggest at least “associating a lockup register with a beginning or ending circuit element of the first or second scan chains, wherein a design rule for the act of associated the lockup register with the first or second scan chains associated with the lockup register are based at least in part upon a clock waveform and a triggering edge of the beginning or ending circuit element.”

For at least these reasons, it is respectfully submitted that Masatake and Jaramillo, singly or in combination, does not teach or suggest the invention as a whole. For at least these same reasons, it is respectfully submitted that claims 1 and 11, as amended, are not obvious, and the rejection should be withdrawn.

Since the remaining claims respectively depend from these independent claims, these dependent claims are considered allowable over this reference for at least the same reasons as discussed above.

**CONCLUSION**

Based on the foregoing, all claims are believed allowable, and an allowance of the claims is respectfully requested. If the Examiner has any questions or comments, the Examiner is respectfully requested to contact the undersigned at the number listed below.

To the extent that any arguments and disclaimers were presented to distinguish prior art, or for other reasons substantially related to patentability, during the prosecution of any and all parent and related application(s)/patent(s), Applicant(s) hereby explicitly retracts and rescinds any and all such arguments and disclaimers, and respectfully requests that the Examiner re-visit the prior art that such arguments and disclaimers were made to avoid.

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Respectfully submitted,

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